SKATOLOGY

NEWSLETTER OF THE ASA SECTION ON SCIENCE, KNOWLEDGE, & TECHNOLOGY

AUGUST 2017 SUMMER EDITION

Chair's Column

Scott Frickel, Brown University

It's time to pack your bags, SKATers! The ASA meetings in Montréal are just around the corner. If the city's old world charm, fine cuisine, and cool summer evenings don't immediately sway most of us beyond the 49th Parallel, maybe Canada's refreshingly pro-science political climate under Prime Minister Trudeau will.

The ASA meeting's thematic focus this year is Culture, Inequalities and Social Inclusion across the Globe. In her statement, ASA president-elect Michèle Lamont holds out the sociological study of the cultural dimensions of inequality as a means toward "greater social inclusion and resilience, collective well-being, and solidarity in the United States and globally." [1] In keeping with this theme, SKAT section organizers have developed panel sessions on race and postcolonial science, data programming and inclusionary politics, and inequality in scientific careers. Our fourth panel, a joint session with the Environmental Sociology section (formerly Environment & Technology), pursues a hopeful focus on "socio-environmental solutions." All of this, plus the roundtables, business meeting and section reception are scheduled for Monday, August 14th. See below for schedule and location details. Our reception will be held at **Café Parvis** (at 433 rue Mayor), just a few blocks away from the Palais des Congrès de Montréal. Jennifer Fishman taste-tested menus at several potential venues and assures us we have a winner. The party starts at 6:30!

Mid-way through our business meeting I will turn things over to Alondra Nelson, incoming SKAT Chair. I'm sure I'm not alone in saying that I am eagerly anticipating her wise leadership over the next two-year term. In addition to Alondra, we will also be welcoming five new faces to SKAT Council: Laurel Smith-Doerr (Chair-elect), Claire Decoteau, (Secretary/Treasurer), Tim O'Brien and Janet Vertesi (Council Representatives), and Melanie Jeske (Student Representative). At the same time we say goodbye to several colleagues who've done a lot of heavy lifting for the section for the past 2-3 years. I want to offer a collective thanks to Jennifer Fishman, Mary Frank Fox, Laura Stark, Mike Halpin, and Steve Epstein. I am especially grateful for Jennifer's willingness to be a partner in running the section. I've asked her for advice and relied on her energies often during my term; to my great relief, she never ignored my pleas for help. Early on, Steve also came to my rescue more than once with sound advice for which I remain grateful. With this meeting he wraps up a six-year stint on Council as Chair-Elect, Chair, and Past-Chair. I'd be lying if I said I wasn't looking forward to occupying the Past-Chair chair for a while. I can only hope it is a comfy one and has good lumbar support. Kelly Moore, my dear friend and always-there sounding board: Thank you, again.

The annual work of the section, of course, is a communal affair. Our committees did

INSIDE THIS ISSUE:

fantastic work keeping me in line and the trains running on time. Your service this year is greatly appreciated:

Membership Committee: Rina Bliss (Chair), Janet Vertesi, Juan-Pablo Pardo Guerra

Nominations Committee: Laura Stark (Chair), Jennifer Fishman, Scott Frickel

Publications Committee: Jennifer Singh and Tony Hatch (Co-Chairs), Dan Morrison, Kelly Underman, Joseph Waggle, David Peterson, Alka Menon

Merton Book Prize Committee: Mary Frank Fox (Chair), Claire Decoteau, Sharla Alegria, Torsten Heinemann

Star-Nelkin Committee: Alondra Nelson (Chair), Troy Duster, Susan Markens, Moran Levy

Hacker-Mullins Committee: Ruha Benjamin (Chair), Jacob Foster, Courtney Cuthbertson, Jennifer Carrera, Danielle Giffort

In my first Chair's Column two years ago I wrote of my intention to use this space for reflexive commentary about science, knowledge and technology as it relates to the life of our section supported, when possible, by empirical data. Here's one last, brief attempt to meet that promise.

Last spring I recruited two undergraduate research assistants, Bri and Ben, to help me with a content analysis of media accounts of scientists' responses to the Trump administration. Our search of the *LexisNexis Academic* database yielded 720 hits from the search string "Trump AND scientists". [2] Trimmed of duplicates and irrelevant articles [3], we identified 574 accounts appearing in newspapers, online news sites and blogs, and radio and television transcripts. From these, we selected a 10% random sample as a first step toward a broader analysis of expert political mobilization. Among several interesting initial findings, one comparison stands out: 96% of articles described one or more threats to science deriving from the Trump administration. These threats ranged from gagging federal agency scientists, to sharp cuts in research funding, to cancelation of scientific programs, to the travel ban. By contrast, only 9% of the articles in our sample mentioned opportunities for scientists stemming from actions taken or promised by the new administration. Most opportunity mentions pointed to increased funding for certain types of research. For example, in March the *Christian Science Monitor* ran a story relating that "President Trump signed... legislation [that] authorizes $19.5 billion worth of funding… [to] keep several of NASA's high-profile exploration programs on track."[4]

If you're like me, for the last eight months you've been mildly obsessed with US national politics. The scholarly focus of my obsession has been to pay attention to the threats (dismissals, cuts, erasures, bans) and scientists' responses to those threats. But our findings from the media coverage analysis have me wondering whether my instinctive focus on the threat-response dynamic has been overly narrow. Opportunities also trigger responses and these too warrant scholarly attention. While some scientists are being deeply and negatively impacted by the new political order, others may well benefit from Trump's political agenda. Climate sciences, environmental health, and reproductive health are among those fields that are probably in trouble. But other fields like materials science, geology, space exploration, and many areas of biomedicine and engineering may gain resources, attract more students, and experience job growth in the near term. Over the longer run its harder to say whether opportunities or threats will prove to be most impactful. Most likely, these dynamics are operating together and will produce new patterns of inequality within science that we are not yet seeing in full. We'll miss the larger picture if we let ourselves be captivated, as I have been, solely by the exciting promise of scientists' resistance.

Science is an uneven and always-shifting landscape; Trump's impacts on science will be uneven and shifting as well. Mindful of this, our best work on this topic will require balanced attention to the consequences of collective struggle *and* compliance, of disadvantage *and* privilege.

[1] http://www.asanet.org/annual-meeting-2017/2017-theme

[2] We collected data from Inauguration Day, November 9, 2016 through March 30, 2017. The study period ends a few weeks prior to the March for Science, convened in Washington, D.C. around at satellite marches around the world on Earth Day, April 22.

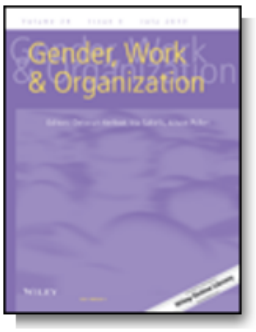
[3] For example, one article described teams of scientists competing against one another in a game of bridge, involving a different sort of "trump".

[4] https://www.csmonitor.com/Science/2017/0322/With-budget-boost-Trump-shifts-NASA-s-gaze-from-Earth-to-Mars

ANNOUNCEMENTS

CALL FOR PAPERS

Gender, knowledge production and knowledge work
Special Issue, *Gender Work & Organization*
Co-editors : Pauline Cullen, Lecturer Sociology and Politics, Maynooth University, National University of Ireland; **Myra Marx Ferree**, Professor Sociology, University of Wisconsin, USA.**; Mieke Verloo**, Professor Comparative Politics and Inequality Issues, Radboud University, the Netherlands; **Kate Grosser**, Senior Lecturer, International Business School of Management RMIT University Melbourne, Australia.



This interdisciplinary call is for papers that address the changing gendered politics of knowledge and knowledge creation in relation to organization studies (Gherardi 2010). The central aim of this special issue is to explore the emergence and fate of gender knowledge claims - understood as forms of 'gender expertise' – in the transformations of such knowledge production organizations as higher education and cultural industries. Gender expertise and other forms of gender knowledge are mobilised by actors who are competing to shape discourse, policy and practice on gender equality (Bustelo et al. 2016; Elomaki, 2015).

Previous work has explored how the knowledge society and economy are gendered (Walby et al , 2011) and how gender knowledge claims enter public policy debates (Prügl and True, 2014; Roberts, 2014; Cavaghan 2013). More recently, cultural production itself has been seen as a context for gender knowledge claims, for example, in professional training and higher education (Ferree and Zippel, 2015; Gill and Donaghue, 2016; O'Connor, 2014) and in cultural industries such as film, publishing and social media (Conor, Gill and Taylor, 2015). This later research has suggested that the commercialization of knowledge and the adoption of corporate practices and ideologies has gendered implications for the conditions in which knowledge work is done, the career paths of knowledge workers and the extent of feminist control over the production of gendered knowledge.

This special issue aims to consolidate and extend this research. We are looking for papers that move beyond merely substantiating the degree of gender inequality in organizations producing knowledge to explore the implications of institutional reconfiguration or reform in these industries and the gender knowledge claims that accompany these organizational change projects. We are also are seeking research that explores the implications of organizational structures for knowledge workers, and crucially also their responses to changes, including strategies they employ to resist in neo-liberal contexts and feminist collective actions to support new or expanding gender knowledge claims (Swan and Fox, 2010; Parsons and Priola, 2013).

Potential topics include: gender equality and academic managerialism; gender and precarity in universities and cultural industries; gender, leadership and higher education; gender training organizations and organizing; using gender knowledge to address work-life balance/conflict, intersectional perspectives on knowledge production; control over recognition and reward surrounding knowledge production and assessments; the co-optation of feminist knowledge work and/or collective resistance to these changes. This list of topics is suggestive rather than exhaustive. We invite scholars from a variety of disciplines including sociology, political science, cultural studies, geography, management and organisational studies to submit papers that expand existing knowledge or explore new directions for the field of gender, knowledge production and knowledge work for consideration in this special issue. Articles should be submitted online

ANNOUNCEMENTS

at http://mc.manuscriptcentral.com/gwo and conform to the author guidelines of *Gender, Work and Organization.* The normal length of a submitted article should be around 9,000 words. **The deadline for for submission of papers for peer review is September 30 2017.**

JOB ANNOUNCEMENTS

The **Department of Community and Environmental Sociology at UW-Madison** is searching for a tenure-track (junior) faculty member with an outstanding record of teaching and research relevant to **environment and health**. The position requires a Ph.D. in sociology or related field. Candidates from historically underrepresented groups are strongly encouraged to apply.
The successful candidate will teach and mentor in our top-ranked graduate and undergraduate programs, and will carry out a vigorous research program that improves the ability to understand and intervene on the intersecting social causes and consequences of environmental and health problems. Consistent with the mission of the University of Wisconsin System, the candidate will be committed to service to the community, state, nation, and profession for the benefit of all citizens.

The University of Wisconsin-Madison is committed to eliminating the achievement gap between majority and underrepresented students; recruiting and retaining a more diverse faculty and staff; preparing all students, staff, and faculty to thrive personally and professionally in a diverse, global, interconnected world; and enhancing the campus climate for inclusion. Review of applications will begin **15 September 2017**.

New York University

The Department of Technology, Culture and Society at NYU Tandon School of Engineering is seeking PhDs in anthropology, sociology, STS, history of science, or related fields to teach the following classes in fall 2017. Recent graduates and exceptional ABDs (with teaching experience) are invited to apply. There is some flexibility in terms of course materials, instructor methods and assignments. Please send a short message of interest and CV to the Director of STS, Amber Benezra, amber.benezra@nyu.edu. Open until filled. Adjunct positions are unionized and well-compensated.

- **Ethics and Engineering M,W 10:30am-12:20pm**

This course examines issues relating to engineering practice and applied technology. We will study foundations for moral decision making such as professional codes and ethical theories such as Kantianism and utilitarianism. These ethical tools will be applied to a range of case studies. We will also seek a deeper understanding of important issues and challenges stemming from technology with an eye to how globalization and its attendant cultural and moral pluralism affect them.

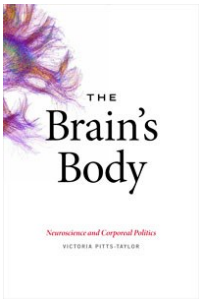
- **Magic Bullets and Wonder Pills T,Th 4:00pm-5:50pm**

We will spend the semester investigating the history of psychoactive drugs and related medical technology, through a 'Science and Technology Studies' (STS) lens. After establishing some of the core concepts in STS theory, we will turn to the development of a number of different psychoactive drugs, and what these drugs tell us about wider social and structural inequalities, science and the politics of knowledge and corporatist logics.

ANNOUNCEMENTS

AWARDS

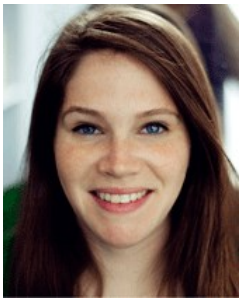
SKAT Award Winners, 2017



Robert K. Merton Book Award

Victoria Pitts-Taylor (Wesleyan), for *The Brain's Body: Neuroscience and Corporeal Politics* (Duke University Press, 2016).

Honorable mention: Aaron Panofsky (UCLA), for *Misbehaving Science: Controversy and the Development of Behavior Genetics* (Chicago University Press, 2014).



Hacker-Mullins Graduate Student Paper Award

Kellie Owens, Northwestern University, “Too Much of a Good Thing? American childbirth, intentional ignorance, and the boundaries of responsible knowledge.” *Science, Technology & Human Values*, 2017.

Star Nelkin Award

Nancy Campbell (Rensselaer Polytechnic Institute) and Laura Stark (Vanderbilt), "Making Up 'Vulnerable People': Human Subjects and the Subjective Experience of Medical Experiment," *Social History of Medicine*, 2015.

Honorable mention: Justin Farrell (Yale), "Corporate Funding and Ideological Polarization about Climate Change," *PNAS*, 2016.

Mary Frank Fox (Georgia Institute of Technology) received two awards: 1) the Ivan Allen College Distinguished Faculty Researcher Award, and 2) the 2017 Faculty of the Year Award of the Georgia Tech Student Government Association.

NEW PUBLICATIONS

Mary Frank Fox, Mary Lynn Realff, Diana Roldan, and Jillian Morn. "International Research Collaboration Among Women Engineers: Frequency and Perceived Barriers, by Region" *Journal of Technology Transfer, forthcoming.*

MEMBERSHIP ANNOUNCEMENT

We are just 50 members short of our 600 member mark and need to get to 600 before the annual meeting! Please sign up here or gift membership to graduate students here. For students who are members of ASA, it is only $5 to become a section member. Please also consider gifting other students outside your department, and let us know about any students who are in search of support.

INTERVIEW WITH JANET VERTESI

Dan Morrison interviewed Janet Vertesi, Assistant Professor of Sociology at Princeton University about her book, *Seeing Like a Rover: How Robots, Teams and Images Craft Knowledge of Mars,* published in 2015 by the University of Chicago Press. ISBN: 978-0226155968. PART I appeared in the Spring newsletter; PART II appears below.

Vertesi discusses her book, gaining access to NASA's rover missions, and how her study of images in contemporary scientific practice led to insights in the sociology of organizations. Their conversation has been edited for length.

Morrison: You spoke about how the book speaks to enduring questions in the sociology of science but is also responsive to the ways that some sciences are distributed. What are the main theoretical lessons for sociologists of science and knowledge coming out of your book?

Vertesi: On the one hand, a move towards theorizing what we mean when we say knowledge is socially constructed. It's not because of some social mores or cultural mores in people's heads, although it is that, sometimes. It's also because the knowledge is being constructed in a particular kind of social group with a particular kind of social organization, and that organization matters for the kind of knowledge that is being done. And the images from Mars, people would contest images that other people showed on the team if it didn't align with a collective interpretation. The image isn't wrong because it's a bad image of Mars, it's wrong because it doesn't depict what we all agree [about Mars]. And that distinction ended up being really important for understanding how we talk about knowledge construction. In this case, it's a collective, but in other cases it's other kinds of organizational forms. We tend to bracket that in sociology of science. There's epistemic cultures, Karin Knorr-Cetina, there is great work by Wes Shrum, there's this new paper by David Peterson that think about the organization. But the organization is based in a discipline, and often we assume that things that are organizational are actually discipline, or they are just science, because we are in one location. But actually the way that we are organized has a huge effect on the kinds of knowledge that is getting produced by the organization. In this case, it's the collective that decides exactly which images are going to be taken and which ones are not. It's the collective that decides what the long-term and short-term goals are of the robot, how to allocate the resources among members of the team. They decide what a scientific interpretation is that they share, and they decide collectively how it is that they will go after a particular scientific question. That's a really specific format for knowledge production. And you end up with stuff that is socially shaped, but it's shaped through this particular kind of social group. That, I think, is a really interesting meeting place for classic STS and SKAT, the sociology of science and technology, right, it's a place where we come back together with organizational sociology, with institutional sociology, with microsociology. To come back and witness how those facts are being done through a micro-level process.

The other thing that I would mention also is that I didn't go into studying the Mars rover thinking I would

stay in planetary science for ten years. But it's been 10 years since I started the research for this particular book. And there are several more books on the way now as a result. One thing I would absolutely exhort young ethnographers to pay attention to is temporality. You are in there at a particular time. You're not just in a place, but you are in a time. There is great work in anthropology, I think we should bring more of that in to understand the shifting and changing landscape of laboratory work. It's the kind of thing that you talk about, "Oh of course, temporality is important." But this really is, this puts the "lifetime" in *Beamtimes and Lifetimes*. When you are appointed to a planetary mission, they call it a life sentence. You're on it. You're on it until the robot dies. And that can be 30 years. So it's a long time to be working with a group of people, it's a long time to be working with a robot.

There is one other big theoretical point that comes out of this book, and that's embodiment. Embodiment has been a theme of interest in science studies recently, coming out of the work that Joe Dumit's students did at MIT. I'm thinking about people like Natasha Myers and Rachel Prentice as well as Morana Alac who is at UCSD, a semiotician and ethnomethodologist. All three of these are cases where these women are studying ethnographically these very deeply digitalized environments. What they find is, in confronting the digital, people are using their bodies to make sense of the objects that they are encountering virtually and in the field. This has been a really important development and they draw on various strains in the heritage to deal with this, you know, semiotics and the language of practice on the one hand from ethnomethodology, the concept of habitus, obviously, and then the Merleau-Ponty notion of this kind of proxy or extension. These are all important intersections. Now of course on the sociological side when we think about embodiment, we mostly think about habitus and we mostly think about the work of Loïc Wacquant, right? Which also gives a very particular perspective on how to deal with embodiment in this site. It's a place where people are using their bodies to be the robot. They're doing sensemaking using their bodies to be the robot because they are trying to understand what the robot is going through millions of miles away, so there is kind of a sense of that.

> ***"In confronting the digital, people are using their bodies to make sense of the objects that they are encountering virtually and in the field."***

But they are not just projecting their human selves out into the robotic body. They are taking the robot onto their body. They are learning to feel in their body how the robot feels. They are doing things like describing breaking their arms and their legs at the same time as the robot breaks a wheel. There's this this narrative connection going on, and there, the way the robot is embodied is actually related to the way the team is unified as a collective. The robot itself becomes a resource in the production of consensus, because it is the object to which everyone is committed, but also, when you "see like a rover", everyone is seeing from the same subject position. Being in the body of the robot is being in the collective of the team. So there is a crazy part of the book where I reproduce the frontispiece from Hobbes' *Leviathan*, where the king's body is made up of tiny people, because it is the will of the tiny people that give the king agency. It's the same thing there, where the agency of the robot is made up of these tiny people and they have a language for talking about that.

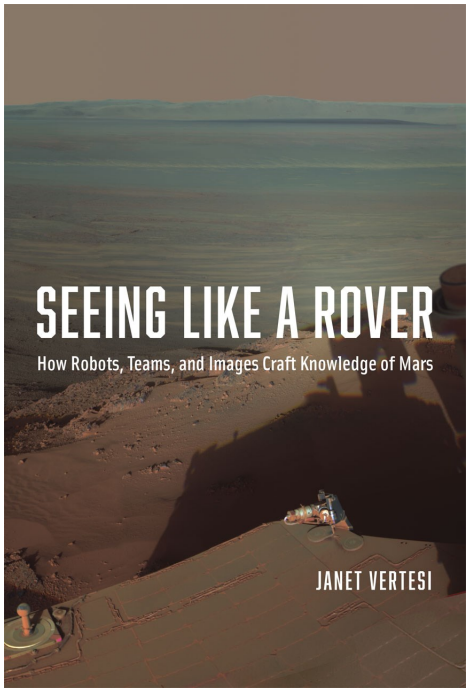
So I think the relationship between bodies and organizations is something that we haven't really examined. Yes, they are working with digital things and robots so they are going to use their bodies in order to understand that. We have some studies of that. But the way that they use their bodies is embedded organizationally, and participates in their organization, that's something that we need to be attuned to. Because it's not just that they are embodying the phenomenon under study or the instrument. They are embodying the collective. The way they embody the instrument is the way they do the organization. It's hard to talk about that stuff without seeming a bit "woo-woo" and touchy-feeling and stuff, because these are people that, you know, people wept when Spirit died. You know, there are some really deep emotional connections here. And as an ethnographer you have to take that seriously. The challenge is how.

Morrison: I love this point, because it does harken back to Durkheimian collective [emotions].

Vertesi: [laughs] It's totally Durkheim.

Morrison: The totems are imbued with emotional energy and they represent and stand for and act on behalf of the people whom they represent in the same way that the body of Hobbes' king does for his people.

Vertesi: There was a point where Mike Lynch handed me *The Elementary Forms of the Religious Life* and said, "You should really need to, you should really [read this]. I think there are some resonances here." [laughter] And it's true. You know, I also bring in Randall Collins, and his notion of emotional energy, because that's a way of creating this sense of social solidarity. It links the solidarity, the social processes, the organization, the physical robot, and I would argue also, bodies, in producing that synthesis. That's where I think the sociology is. It's not just that isn't it nice that they like their robot. No no no! Liking their robot is a symptom of the way that their team operates.



Morrison: They don't simply like the robot.

Vertesi: It's a whole other thing. This is a team that, at the end of every meeting, they go around the room and ask everyone on the phone line: "Are you happy with the plan?" And everyone has to say "I'm happy" and that's when they proceed. It's so ritualized as a response pair that people joke about it. They make funny [statements about it]. They have a joke about it because it is part of the social order of the team. First of all, it's a unified, collective assent, but it's also this moment of emotional energy around this robot as well. So it's a team that is suffused with affect, surprisingly, and the affect is doing important organizational work. That's the part that, you know, I wanted to study images and came out studying organizations because once you see this stuff in play in this little microcosm of the mission unit, you can't escape it.

And hopefully, as you read the book, the thing that I've heard from a lot of people reading it is, they get to the end, and maybe I shouldn't give it away, but the robot dies, you know. And people are sad. And so to me, as an ethnographer, that means I did my job, because by the time you get there you've built an affective relationship with these robots and with these people behind the scenes, for whom their life stories are bound up in the life story of the robot. And so when you get to that moment, it's not just a "here's what we've learned" it's also "here's what we feel."

Morrison: The book has been reviewed several places, and you have also done some public writing about your work on CNN and other places. How do you think the work has been received?

Vertesi: It always surprises you when people read it. You write this book, you slave away on it, and you wonder how they are going to receive it, and what people are going to think. Then it moves around in the world as its own object. I've been really pleased by its reception, actually. This is a theoretically dense book, doing work in sociology and in STS. It's relying on really thick ethnographic immersion. It's not one of your typical "Yo-ho-ho let's go to Mars!" [books]. That said, there are lots of books about NASA missions that are triumphalist, obviously not on the scholarly realm. But there is a lot of that sort of pabulum. So I was trying to do something that would be reasonably publicly accessible and I was pleased to find that there are a lot of NASA scientists who've got it and who've read it or have read bits of it and who really enjoy it.

The book is really beautifully produced, Chicago did an amazing job. It's in full color. The whole thing is full color, there's something like 90 full color images in there, and they really did an astonishing job. So it's a very enticing book, and hopefully it does give people a sense of what goes on behind the scenes. And some of the uncertainty and the decision-making that goes on. Where should we go? What should we do? What is this thing? Being in the field for as long as I was I was able to track certain discoveries from point of investigation all the way through to their science papers, so these things that come out as matters of fact to their audience are certainly not that way behind the scenes. I'm really happy with how it's going so far.

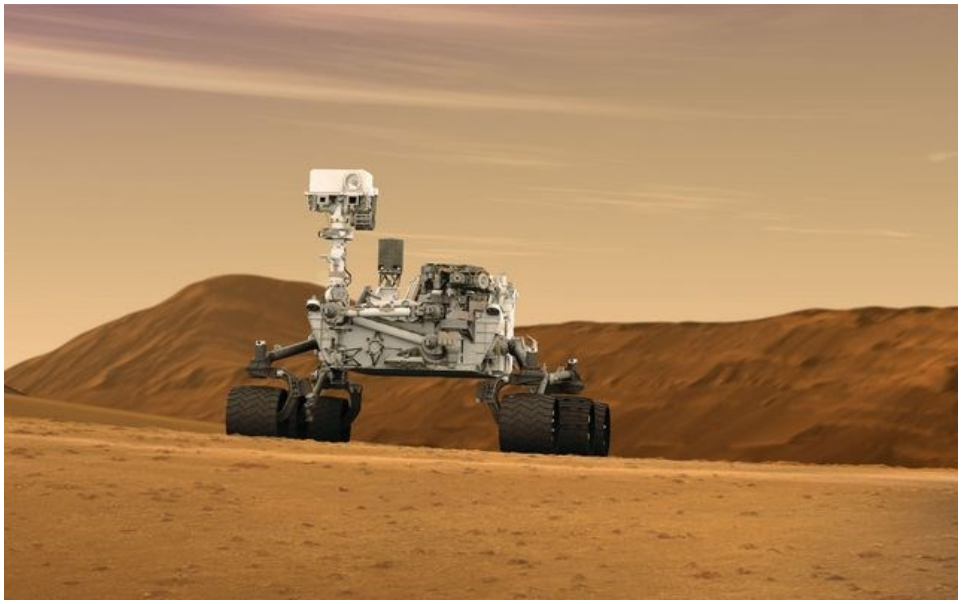
I also do a bunch of public writing about digital stuff more generally. I've done a lot of blogs for CNN. A lot of this is about thinking more generally about public sociology and how do we think about technology and society, and science and technology studies writ broadly has a lot of powerful tools for thinking about the stuff that looks so shiny and new. So I've done a bunch of work on that as well.

Morrison: Final thoughts?

Vertesi: Ultimately what it comes down to is: the images of Mars are also images of the team. That's a huge take-away from the book, and it's a very specific kind of team. I'm not by any means idealistic about what consensus means or what those kinds of communities are. Trevor Pinch is one of my advisors, and as I was doing the work for this he said, "You've got to find the controversy" you know, because controversy was the key to the original STS stuff. And I said, "Trevor, there is no controversy. The whole point of this is that there is no controversy. The social work is in making this a collective." And that's the moment when I realized that maybe this is the interesting part. Collaboration across groups has been a longstanding interest in science studies, look at Leigh Starr's stuff on boundary objects, or Peter Galison on trading zones. Some of the classic stuff looks at these inter-institutional, interdisciplinary collaborative moments and the materials and the practices that scaffold that work, the language. That is all in this book. It takes apart the rituals, the forms of talk, the digital materials, the robotic materials, kind of imagined robot as well, the embodied robot that allows this to work the way that it does.

Morrison: Thanks very much, Janet.

See the spring 2017 newsletter if you missed Part I!



https://mars.nasa.gov/msl/multimedia/images/

INTERVIEW WITH MARTINE LAPPÉ

Martine Lappé is a Research Fellow at Columbia University's Center for Excellence in Ethical, Legal and Social Implications Research (CEER) and Principal Investigator of a five-year Career Development Award funded by the National Human Genome Research Institute (NHGRI). She received her PhD in sociology from the University of California-San Francisco and was a Postdoctoral Fellow at the UCLA Institute for Society and Genetics. Her scholarship draws on medical sociology, feminist science studies, and qualitative methods to examine the intersections of lived experience and scientific and medical knowledge production. Lappé's first book, *Anticipating Autism: Science, Uncertainty, and Care in the Post-Genomic Era*, explores how families, scientists, and policy makers influence and experience contemporary causal explanations for autism. The book focuses on the relationships between autism science and experiences of pregnancy and parenthood in the United States. Her current research project investigates the social and ethical dimensions of behavioral epigenetics and its consequences for understandings of children's health. Lappé has taught courses in the sociology of health and illness, science and technology studies, gender studies, and qualitative research methods. Her work is published in the journals *New Genetics & Society*, *BioSocieties, Social Studies of Science, Journal of Medical Ethics,* and the books *Advances in Medical Sociology: Genetics, Health and Society* and *Achieving Justice in Genomic Translation: Rethinking the Pathway to Benefit.*

You're currently working on your first book, *Anticipating Autism: Science, Uncertainty, and Care in the Post-Genomic Era*, which is based on your research on the science of causal explanations about autism. What is the argument you make in this book and what kinds of data do you use?

Autism has become a growing area of public and scholarly interest in the past several decades. *Anticipating Autism* describes the relationships between contemporary ideas of autism, scientific practices, and experiences of parenting in the post-genomic era. This era reflects a time of significant changes in the life sciences and modern life, when questions about the causes of complex conditions and common traits have shifted to an emphasis on interactions between genes, environmental factors, and timing in

shaping health, development, and disease. *Anticipating Autism* reveals how this more expansive and temporally contingent causal landscape came about, and its consequences for our understandings of health, risk, and difference in the United States. In the book, I argue that contemporary research on environmental and genetic risks for autism provides an important example of how this era is influencing the ways we define and address health and difference in society.

Today, claims about the causes of autism appear in the news regularly, biological tests are being developed to screen for autism *in utero*, and researchers are beginning to identify signs of the diagnosis during the first months of life. These anticipatory efforts align with public health campaigns that urge parents and physicians to "Learn the Signs and Act Early," as rates suggest that autism affects 1 in every 68 children in the US. All of this is happening while a growing chorus of autistic self-advocates and their allies call for acceptance and recognition rather than pathologization and prevention.

From the laboratories of cutting-edge research to the clinics and homes where samples are collected and autistic children are diagnosed and cared for, my book describes how continued social and scientific uncertainties surrounding autism have produced a more flexible and expansive understanding of the diagnosis that has nevertheless become concentrated around some bodies and developmental times more than others. In *Anticipating Autism*, I illustrate that through environmental and gene-environment interaction research, autism is now being imagined and enacted as a potential future that can be considered, engaged, and intervened-upon during earlier and earlier points in human development.

I argue that this moral imperative has the dual effects of expanding risk factors associated with the autism spectrum and simultaneously focusing on their effects in the bodies and actions of parents – but particularly mothers – before, during, and after pregnancy. The book provides a critical analysis of the social origins of this inclination and its temporal, affective, and ethical dimensions. *Anticipating Autism* asks: Why did this focus on early life come about? How are understandings of human development, genetics, the environment, and difference shaping and shaped by these efforts? And what are its effects for families, scientists, policymakers, and autistic individuals?

To answer these questions, I draw on qualitative data from a multi-year, multi-sited ethnography that includes participant observation of research with pregnant women, their autistic children, field notes from scientific and community meetings, analysis of popular and scholarly documents, and in-depth interviews with scientists, advocates, and parents of autistic children. My analysis reveals the temporal and affective dimensions of anticipating autism and its explicitly gendered dimensions. In the chapters of the book, I describe how the forms of anticipation that accompany autism today suggest a heightened sense of social and medical scrutiny of pregnancy and early childhood, and a new constellation of responsibilities for women as mothers and potential mothers in particular.

It is important to point out that autism is by no means just a childhood diagnosis. The book addresses how the widespread focus on risk factors and early diagnosis contributes to the medicalization of reproduction, childhood, and parenting, as well as an uneven focus on childhood when many are advocating for neurodiversity and research priorities that would better support autistic individuals across the life course.

What originally drew you to this topic? What is it, do you think, about the phenomenon of autism that has attracted so much sociological interest? What kinds of questions does it raise for science studies?

I have always been interested in the intersections of gender, science, and medicine. Before focusing on autism science and now the production and circulation of epigenetic knowledge, my research focused on the politics and embodied experiences of women's HIV prevention. I conducted research in Jamaica as an undergraduate student at UCSD, where I worked with Andy Lakoff and Steve Epstein. I was very

fortunate to work with Adele Clarke and Janet Shim at UCSF during my doctoral work, and with Chloe Silverman who is at Drexel University. While my early research in graduate school continued to focus on women's HIV prevention in the United States, Malawi, and Mozambique, like many graduate students I shifted focus for my dissertation research.

As I decided on my dissertation topic, I was working closely with a colleague whose son has autism. Our study explored autism and expertise. As we coded expert testimony from Institute of Medicine hearings and conducted interviews with key autism researchers and advocates, she traversed the myriad responsibilities of advocating for her son and juggling the early years of an academic career. Seeing these intersections of life and research first hand made the stakes of the debates surrounding autism really clear to me. The frames we use to explain health and difference influence people's lives deeply and shape the structures of care surrounding diagnosis, too. I think these intersections of the personal and intellectual motivate many sociologists to study autism. Autism is also a topic that has garnered significant public and political attention, and I think the sociology of science and medicine provides meaningful ways to show the connections between scientific knowledge and lived experiences.

Tracing the sociological dimensions of autism science and families' experiences of the diagnosis has also always been a feminist project for me, one that oriented from the very beginning around the question of how science is shaping and shaped by gendered ideas of risk and responsibility. Drawing on feminist traditions and the sociology of knowledge, science and technology allowed me to show how gender influenced the sciences and their impacts in the world.

> ***"I think our larger cultural preoccupation with the future is intimately tied to concerns about control, which carry with them moral assumptions and obligations that are unevenly distributed in society."***

Temporality is a theme that informs much of your work. What does thinking about futurity and futures bring to sociological research on both science and experiences of illness or disability? How does anxiety about the future shape science and policy on autism? Has your own thinking about your research been affected in any way by current anxieties about the future of healthcare in the United States?

My research on autism and my current project on behavioral epigenetics deal centrally with temporality and particularly anticipation – but I am also very interested in the past. I think our larger cultural preoccupation with the future is intimately tied to concerns about control, which carry with them moral assumptions and obligations that are unevenly distributed in society. My research has paid particular attention to the gendered effects of these dynamics in relation to autism science and – more recently – in my work on epigenetics. I have been interested in the social impacts of different forms of knowledge, including the bodies and lives that are central in their production and circulation.

In my work on autism, temporality emerged because of the focus of the sciences I followed. In the prospective epidemiological studies that I observed, anticipation was an orientation among many of the researchers and for participants, too. This is something I discuss in depth in an article published in BioSocieties in 2014, which traces the temporal and affective dimensions of participation in autism gene-environment interaction research.

For these scientists, anticipation was central in their efforts to identify early risk factors for autism. This is a complicated endeavor because complex conditions do not have simple causes, and because autism itself is not a stable category. During my research, it was also clear that the history of casual explanations for autism also influence their work and that their efforts were fraught with larger assumptions about what ways of being in the world are more or less desirable. The researchers I worked with were also really aware of this and the potential that their research might lead to new narratives of blame.

My research with mothers of autistic children also reflected how their efforts to identify risks for autism were intimately tied to concerns about the social and institutional supports that are available for autistic individuals and those that care for and about them. This is where anxieties about healthcare become central to studying autism science. The investment in autism risk factor research in the United States has not been met with an equal investment in services or support for autistic individuals throughout their lives.

Analytically, temporality brings these findings to the forefront because it allows me to illustrate the affective and material dimensions of scientific knowledge production, and how the emphasis on early identification and intervention is shaped by the larger context of healthcare in the United States.

You recently received a Career Development Award from the National Institute of Health, which is a rare and remarkable accomplishment for a sociologist. Congratulations! What is the project that you'll be working on under the grant?

The five-year NIH Career Development Award is supported by the National Human Genome Research Institute's (NHGRI) Ethical, Legal, and Social Implications (ELSI) Program. My project focuses on the social and ethical implications of behavioral epigenetics.

> ***"The investment in autism risk factor research in the United States has not been met with an equal investment in services or support for autistic individuals throughout their lives."***

Epigenetics has become a topic of growing interest for scientists, physicians, policymakers, and the public in recent years. Although its definition remains heavily debated – which is one motivation for my project – epigenetics generally refers to molecular processes that alter gene expression without changing DNA sequence. I became interested in this science as a focus of sociological study because findings in environmental epigenetics suggest that experiences like diet, toxic exposures, stress, trauma, and care may influence individual and intergenerational health. These are distinctly social phenomenon that researchers are now studying from a molecular perspective. Collectively, this research suggests that these types of experiences and exposures may have lasting – but potentially modifiable or reversible – effects on health, disease, and behavior.

Epigenetic claims have brought increased attention to the biological effects that social, historical, and personal experiences have for health and development. While this is something that medical sociologists and many others have always emphasized, this area of research is disrupting some long-held beliefs about disease causation and heredity, which has caused significant controversy. So, while some celebrate epigenetic research as revolutionary because of its embrace of the social, others have raised concerns that it may produce new forms of determinism and individual blame that extend what some sociologists observed about the genome sciences.

Whether and to what extent these concerns bear out in practice is exactly the topic that my project investigates. The project funded by my Career Development Award includes interviews with epigenetic investigators and an ethnographic study of how epigenetic findings related to children's behavioral health are being translated into intervention programs across clinical and community sites. I am interested in how scientists conceptualize and mobilize information about epigenetic modifications both within and beyond the laboratory, how "the social" is defined and operationalized in those settings, and the impact that this has for experiences of risk and responsibility across different groups.

The goal is that the funded study will fill gaps in sociological understandings of epigenetics by tracing how different conceptualizations of the science influence ideas about health, disease, and the prevention

The project allows me to analyze the networks and meanings that influence how epigenetic findings are translated from the lab to community settings and the emerging social and ethical dimensions that accompany these processes.

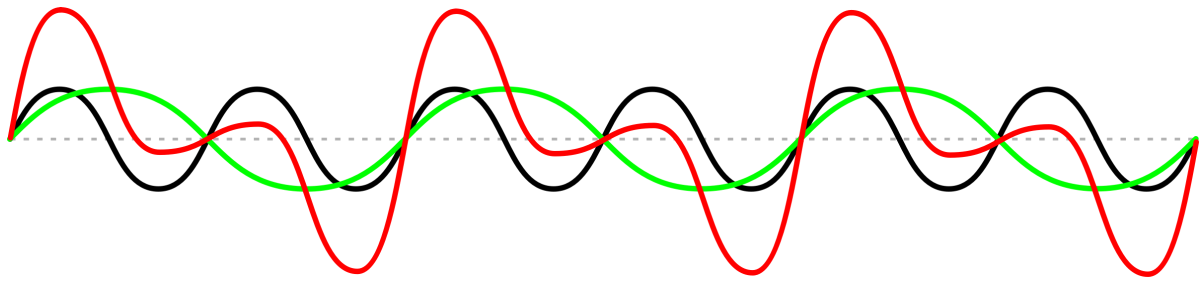
The grant also includes a training portion that has allowed me to take a deep dive into the science of epigenetics and developmental biology, take courses in public health, bioethics, and policy, and expand my methodological background to include quantitative and epidemiologic training. This has been fascinating and has allowed me to think about building interdisciplinary collaborations surrounding this new area of study, which has been really exciting.

What was the process like of applying for this grant? How does it work, as a funding mechanism? What advice do you have for other sociologists about NIH funding and this grant in particular?

I have been very fortunate to have the support of wonderful mentors and colleagues throughout my career, including at UCSF, Stanford, and the UCLA Institute for Society and Genetics. In terms of applying to NIH in particular, Columbia University has been a great place to learn about the culture of grant funding and the process of applying to NHGRI. I know several social scientists and SKAT scholars in particular who have been successful in applying for grants through the NIH and was fortunate to learn a lot from their experiences.

I would be happy to talk to any sociologists who are interested in pursuing this and other grant opportunities. I think the most important thing to recognize about the process is the specific criteria involved in the review process, which informs how you write the grant and how you frame your proposal. For early career awards, the site where you will pursue your research and training is also central to the success of your grant. In my instance, Columbia has a Center for Excellence in ELSI Research where researchers from various backgrounds are pursuing really interesting research on the ethical, social, and legal aspects of genomics. I took a position here after my postdoc at the UCLA Institute for Society and Genetics where I worked with Hannah Landecker, Stefan Timmermans, and Aaron Panofsky, among others. My position at Columbia allowed me to write my grant with the support of excellent mentors who know the NHGRI system well. Beyond the review process and site, another important consideration is the fit between the applicant, research question, and the specific funding agency and mechanism you choose to apply to.

The application process is very involved, but it is incredibly helpful for thinking through the details of your research trajectory, why you are pursing that topic – including its contributions to your field and to the public, and how the training you can gain will help you in your career. Knowing people who have gone through this process is incredibly helpful when you are navigating it for the first time. I think it would be great for more sociologists to be supported by these mechanisms, and I would be happy to talk to anyone who is interested in learning more about the process.



SKAT SPONSORED SESSIONS AT ASA 2017

334 - Section on Science, Knowledge and Technology. Race and Ethnicity in Global and Postcolonial Science

Mon, August 14, 8:30 to 10:10am, Palais des congrès de Montréal, Level 5, 515B

Session organizer: Anthony Ryan Hatch, Wesleyan University
Presider: Grant Shoffstall, Williams College

- Categorical Heterogeneity in Latin American Human Biology: Amerindians, Europeans, Makiritare, Mestizos, Puerto Rican, and Quechua, *Santiago José Molina* (UC Berkeley)
- The Post-colonial Condition: French Social Sciences Evolution through the Case of Arkoun and Sayad, *Amin Perez* (Ecole des Hautes Etudes en Sciences Sociales), *Mohamed Amine Brahimi* (School for Advanced Studies in Social Sciences)

372 - Section on Science, Knowledge, and Technology. Encoding Inclusion, Decoding Inequality

Mon, August 14, 10:30am to 12:10pm, Palais des congrès de Montréal, Level 5, 515A

Session organizer: Alondra Nelson (Columbia and SSRC)
Presider: Aneesh Aneesh (University of Wisconsin-Milwaukee)

- The Ferguson Effect: Public Sociology and the Making of an American Statistic, *Joan M. Donovan* (UCLA)
- Standardizing Biases: Selection Devices and the Quantification of Race, *Daniel Hirschman* (Brown); *Emily Bosk* (Rutgers)
- Beating the Box: How Truckers Resist Surveillance, *Karen Levy* (Cornell)
- Fast Fashion Police: Data, Technology, and Retail Worker Monitoring, *Madison Van Oort* (Minnesota)
- When Genetics Challenges a Racist's Identity: Genetic Ancestry Testing Among White Nationalists, *Aaron Panofsky* (UCLA), *Joan M. Donovan* (UCLA)

411 - Section on Science, Knowledge and Technology Refereed Roundtable Session and Business Meeting

Mon, August 14, 2:30 to 3:30pm, Palais des congrès de Montréal, Level 5, 516C

Session Organizers: Alka Menon (Northwestern), Michael Allan Halpin (University of Wisconsin-Madison)

SKAT SPONSORED SESSIONS AT ASA 2017

446 - Section on Science, Knowledge, and Technology. Scientific Careers: Key Dimensions of Social Inequality

Mon, August 14, 4:30 to 6:10pm, Palais des congrès de Montréal, Level 5, 513C

- Session Organizers and Presiders: Mary Frank Fox (Georgia Tech) and Kjersten Bunker Whittington (Reed College)
- High Resources, High Demands in Elite Science: Consequences for Careers of Men and Women Postdocs, *Anne Kathrin Kronberg* (Goethe University, Frankfurt), *Matthias Revers* (University of Frankfurt), *Heather Hofmeister* (Goethe University, Frankfurt)
- The Impact of Foreign-born Status on Academic Scientific Careers in the United States, *Monica Gaughan* (ASU)
- Tech Work and Family Friendly Policies: Citizens and Immigrant Workers, *Sharla N. Alegria* (UC Merced), *Pallavi Banerjee* (University of Calgary)
- Labor Unions and Equal Pay for Faculty: A Study of Pay Gaps on a Unionized Campus, *Rodrigo Dominguez-Villegas* (UMass Amherst), *Laure Smith-Doerr* (UMass Amherst)

482 - Section on Science, Knowledge, and Technology. Technology, Politics, and Socio-Environmental Solutions

Tue, August 15, 8:30 to 10:10am, Palais des congrès de Montréal, Level 5, 513D
Session organizer: Scott Frickel (Brown)
Presider: Tammy L. Lewis (CUNY-Brooklyn College)

- Contested Identities and Truths in Governance of Extraction and Environmental Risks in Minnesota Copper Mining, *Erik Kojola* (Minnesota)
- Maintaining Reliability in an Increasingly Complex Field: The Electricity Industry's Transition to Smart Grid, *Lauren Scott* (Washington State University)
- Stakeholder Perceptions of Hydraulic Fracturing: Engaging in Strategic Science Translation, *Michelle Lynn Edwards* (Texas Christian University)
- The End of the Petrochemical Age? Corporate Technological Fixes to Existential Ecological Threats, *Alice Mah* (University of Warwick)
- Water Use Decision-making in Southwest Michigan, *Jennifer Lai* (Michigan State)

SESSIONS OF INTEREST TO SKAT MEMBERS

These sessions may also be of particular interest to SKAT members:

Public Engagement Sessions: http://www.asanet.org/engaged-sociology-bringing-sociology-public

062 - Section on Animals and Society. Animals and the Environment
Sat, August 12, 10:30am to 12:10pm, Palais des congrès de Montréal, Level 5, 512A

169 - Regular Session. Neoliberal Governance and Biomedical Battlefields
Sun, August 13, 8:30 to 10:10am, Palais des congrès de Montréal, Level 5, 515B

230 - Theory Section. New Developments in Contemporary Theory
Sun, August 13, 10:30am to 12:10pm, Palais des congrès de Montréal, Level 5, 514A

292 - Regular Session. Sociology of Reproduction 2: Constructing and Contesting Reproductive Knowledge and Science
Sun, August 13, 2:30 to 4:10pm, Palais des congrès de Montréal, Level 5, 510A

377 - Section on Sociology of Sex and Gender. Feminist Perspectives on Science and Technologies
Mon, August 14, 10:30am to 12:10pm, Palais des congrès de Montréal, Level 5, 515B

404 - Section on Comparative-Historical Sociology. The Politics of Experts and Expertise
Mon, August 14, 2:30 to 4:10pm, Palais des congrès de Montréal, Level 5, 515A

471 - Regular Session. Sociology of Knowledge: Classification as a Social Process
Tue, August 15, 8:30 to 10:10am, Palais des congrès de Montréal, Level 5, 511B

502 - Regular Session. Sociology of Science
Tue, August 15, 10:30am to 12:10pm, Palais des congrès de Montréal, Level 5, 516A

537 - Regular Session. Technology
Tue, August 15, 12:30 to 2:10pm, Palais des congrès de Montréal, Level 5, 516D

549 - Section on Sociology of Sex and Gender. Struggles over Difference and Inclusivity in Higher Education
Tue, August 15, 12:30 to 2:10pm, Palais des congrès de Montréal, Level 5, 513D

574 - Section on Environment and Technology. Environmental Movements
Tue, August 15, 2:30 to 4:10pm, Palais des congrès de Montréal, Level 5, 513B